



Virginia

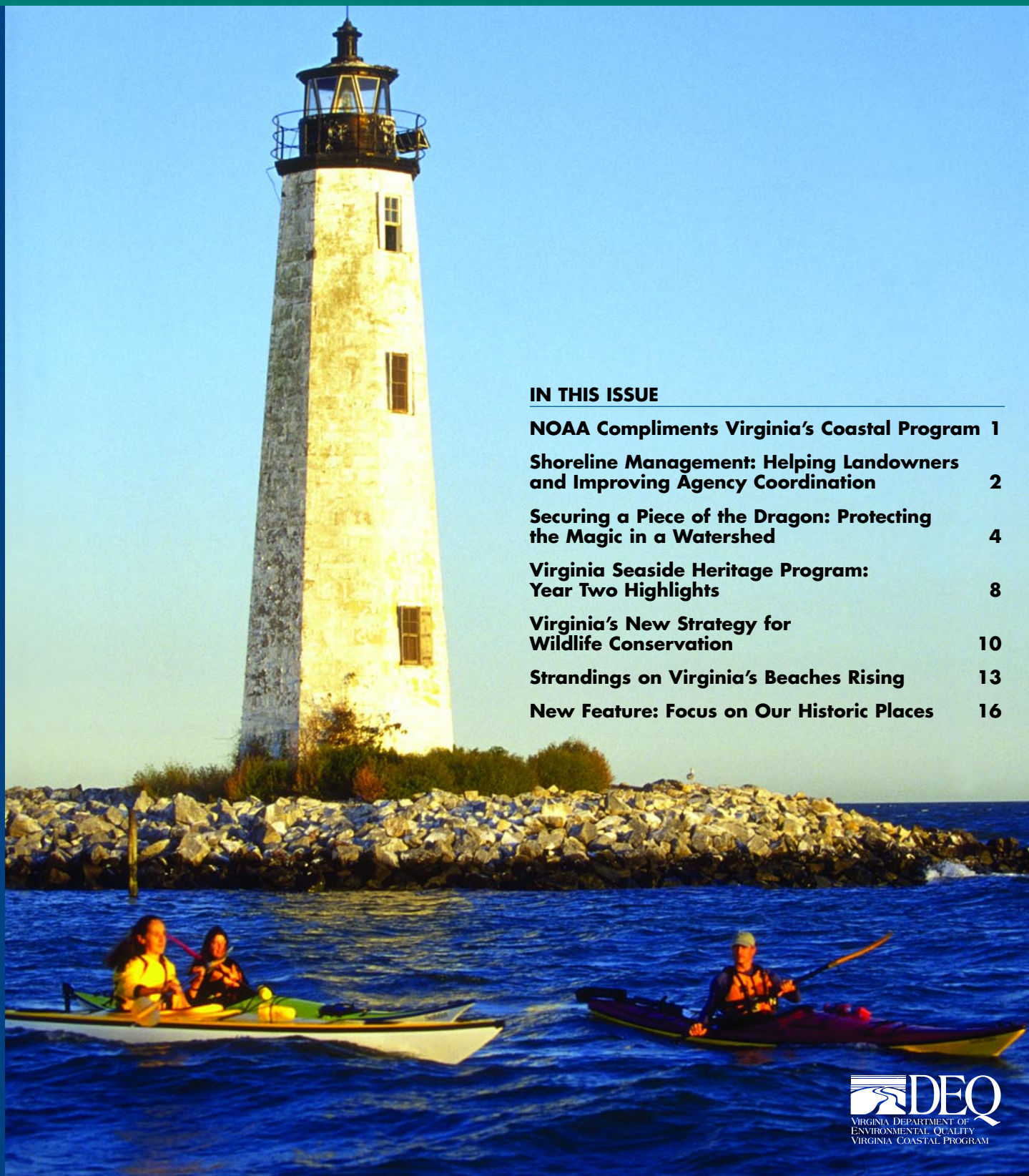
# COASTAL MANAGEMENT

Protecting, Restoring, Strengthening Our Coastal Ecosystems & Economy

Summer/Fall 2004

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Virginia's Coastal Resources Management Program links state, local, and federal efforts to create more vital and sustainable coastal communities and ecosystems. Virginia's coastal zone includes the 29 counties and 15 cities of Tidewater Virginia, and all tidal waters out to the three mile territorial sea boundary. The program includes state laws and policies to protect and manage Virginia's coastal resources, implemented by the Departments of Environmental Quality, Conservation and Recreation, Game and Inland Fisheries, and Health, and the Marine Resources Commission. The Department of Environmental Quality serves as the lead agency for the program.

## Message from the Program Manager



*Dr. Richard Spinrad, Assistant Administrator of the National Oceanic and Atmospheric Administration (NOAA), with Laura McKay at the Coastal Futures Roundtable.*

Our oceans and coastal areas are on the brink of a crisis according to the Pew Ocean Commission Report released last spring and the US Ocean Commission report released this summer. That's not surprising to those of us working to protect our coasts and oceans. We seem to be facing an uphill battle against pollution, species depletion and loss of habitat and open space. 63% of Virginians live in our coastal zone, but the coastal zone is only 22% of our land area. And yet, even with all these warnings, state and federal budgets are threatened with cuts.

The Virginia Coastal Program will lose \$620,000 from its \$3 million grant scheduled to begin in October 2005, unless the Senate restores funds cut by the House. There is hope though. Dr. Spinrad of NOAA is talking with coastal managers through his Coastal Futures Roundtable and plans to visit our Virginia Seaside Heritage Program to learn first hand of our successes in restoring seagrass beds, oyster reefs, shorebird nesting sites and ecotourism opportunities. Governor Warner has backed the US Ocean Com-

mission's support for greater investment. Secretary Tayloe Murphy continues to push for increased investment in natural resources. But we need your help. Desperately. Without a hue and cry from the general public to save our coasts, to invest in the economic potential of our coastal zone, the losses will continue. Let your voices be heard, call your legislators, vote during local, statewide, and national elections, and help us preserve what makes Virginia worth loving.

## Virginia Coastal Management

*Summer/Fall 2004*

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*Front row (left to right) – Krista Trono, Virginia Witmer, Matt Shaw (2004 Coastal Intern), Laura McKay. Back row (left to right) – Scott Lerberg, Julie Bixby, Shep Moon. Photo by Alison Anderson, DEQ.*

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Cover Photo: New Point Comfort Lighthouse, Mathews County. See article on page 16. Photo by Keith Lanpher, Virginia Tourism Corporation.





# Coastal Program Complimented by NOAA Evaluation Report

By Laura McKay, Coastal Program Manager

"The Department of Environmental Quality is successfully implementing and enforcing its federally-approved coastal management program." So begins the final program evaluation findings recently sent to the Director of the Department of Environmental Quality by NOAA's Office of Ocean and Coastal Resource Management.

The evaluation findings are the result of a week-long visit to Virginia by NOAA in August 2003. (See the Summer/Fall 03 issue of *Virginia Coastal Management*.)

## Accomplishments of the Virginia Coastal Program Noted

14 Accomplishments were highlighted in the report. The Virginia Coastal Program (VCP) staff was praised for being "knowledgeable, dedicated and highly respected by their peers and the citizens they serve." They were credited with developing numerous partnerships to extend limited resources to meet priority goals. The report goes on to say that the VCP has established an appropriate funding balance for the state's needs: Concentrating coastal management funds on one or two larger, long-term projects (the Virginia Seaside Heritage and Oyster Heritage Programs) and funding numerous smaller projects to initiate or maintain them. The VCP has also established a beneficial, long-term relationship with the eight coastal planning district commissions that receive funding to provide technical assistance, outreach, and education to the 88 local governments in the coastal zone. Such assistance could not be provided by the VCP staff alone.

Another accomplishment of note is the creation of the Coastal Policy Team, which has provided a valuable mechanism to facilitate communication and cooperation, strengthen the identity of the network of coastal agencies and partners, focus individual agency efforts towards coastal program goals, reach consensus on issues, and devise successful funding strategies for the VCP.

The report states that the Virginia Coastal Program has begun an excellent effort to clearly identify coastal goals and objectives. A performance indicator system to measure progress toward meeting the goals has also begun.

The Virginia Coastal Program's natural resource protection efforts have been enhanced, noted the report, through the Virginia Seaside Heritage Program, which has involved a significant number of public and private partners, outlined goals, and already conducted numerous projects. The Virginia Seaside Heritage Program is the second focal area in a model of concentrated coastal management effort and funding that appears to be successful for the state.

The Virginia Coastal Program was also acknowledged for addressing the importance of nontidal wetlands through legislation that established an independent nontidal wetlands program at DEQ. This has increased wetlands protection through changes to the existing permitting program. The VCP was also credited for its sustained, long-term commitment to Special Area Management Plans.

The evaluation team noted that the Virginia Coastal Program and the Coastal Policy Team have begun to formulate protection mechanisms for dune and beach systems not protected by existing laws and regulations. And also noted that the state has been a leader in the development and implementation of the coastal nonpoint pollution control program.

In the area of public access, the report states that the Virginia Coastal Program has shown a strong, ongoing commitment to public access. From land acquisition to birding and kayaking trails to lighthouse preservation, the VCP has supported ecotourism.

Finally, the report concludes that the Virginia Coastal Program has an effective, well integrated suite of outreach and education tools, including an impressive website that is well populated and well maintained and a very informative and readable coastal magazine.



*NOAA's Evaluation Team noted that the Virginia Oyster Heritage Program has proven to be an effective approach to focusing efforts of a partnership groups to advance oyster reef restoration efforts along with the habitat, water quality, and economic benefits that restoration brings. Photo by Kendell Jenkins, courtesy of VCP.*

## Suggestions for Improvements to the Virginia Coastal Program

NOAA's report outlines one "necessary action," that the Virginia Coastal Program must take. The VCP was given one year to identify and prioritize other coastal management policies and programs that should be formally incorporated into the VCP. This schedule for incorporation must be submitted to NOAA by July 2005.

NOAA's findings include two "Program suggestions": (1) develop a formal mechanism for communicating policy recommendations, suggestions, requests and other information through departmental heads to the Secretary of Natural Resources; and (2) continue development of state coastal management performance indicators in line with NOAA's effort to develop a national coastal management indicator system.

Finally, the report encourages the Virginia Coastal Program to continue its efforts to maintain and increase program visibility. The NOAA Evaluation Team specifically noted that VCP recognition does not always effectively flow down to the local governments and

# COASTAL NETWORK IN ACTION

## Shoreline Management: Helping Homeowners and Improving Agency Coordination

By Shep Moon, Coastal Planner

Waterfront development, often for retirement or summer homes, is an ever more common sight along the creeks and rivers of Virginia's coastal zone. Waterfront property is expensive, so one of the first "improvements" new property-owners typically consider is stabilizing their shoreline in order to prevent erosion and protect their investment.

Although a number of options are available for managing shoreline erosion, many landowners choose to harden their shoreline with either a riprap revetment (rock) or a wood or vinyl bulkhead. Building these structures along the shoreline may require removing vegetation in order to gain access for construction activities. Depending on the height and condition of the shoreline bank, some property owners also grade their property next to the shoreline to reduce the slope to the water and prevent bank erosion.

Unfortunately, some shoreline stabilization practices can have detrimental effects on coastal resources. Impacts to important habitats and to water quality can occur because of the loss of trees and shrubs, wetlands, beaches, banks, and underwater grass beds. Some of these losses occur immediately because of shoreline structure construction, access to shoreline areas for machinery, or grading. Others are more gradual and may result from scouring and sediment resus-

pension from reflected wave energy or the inability of fringe marshes and beaches to migrate landward as sea level rises. Shoreline stabilization can also affect the gradual movement of sediment along the shore and cause increased erosion on nearby properties. Removal of shoreline vegetation can cause shallow water temperatures to rise. This can adversely affect fish. Loss of trees and shrubs also reduces food and cover for birds and other wildlife.

### *Shoreline Management Measures in Virginia*

Virginia has a number of laws and programs related to shoreline management. Key legislation includes the Tidal Wetlands Act, the Coastal Primary Sand Dunes and Beaches Act, and the Chesapeake Bay Preservation Act. Depending on the specifics of the proposed project, as many as a dozen agencies at the state, federal and local levels may be involved in the review of a single shoreline management project. Part of the reason for this complex review process is the wide range of agency objectives for project review and management. In some cases the objectives may conflict with one another or jurisdictions may overlap. In other cases there are gaps in the management process where coastal resource management objectives are not adequately considered.

In an effort to improve agency coordination on shoreline management decisions, the network agencies of the Virginia Coastal Program (VCP) have undertaken a number of initiatives. In general, these initiatives have taken the form of improved guidance, policy analysis, or new data and research.

### *Improved Guidance*

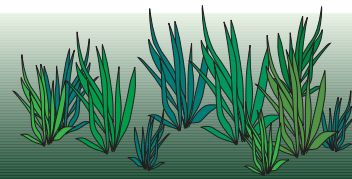
A common pitfall of coastal resource management is the lack of adequate guidance for decision makers and property owners. In an effort to improve the level of guidance on shoreline management issues and programs, Virginia Coastal Program agencies have completed, or are working on, several important documents.

**Joint Permit Application Revisions:** A joint effort is underway by the Virginia Marine Resources Commission, the Department of Environmental Quality, the Department of Conservation and Recreation's Division of Chesapeake Bay Local Assistance, and the U.S. Army Corps of Engineers to revise the Joint Permit Application (JPA) used by property owners to apply for any permits necessary for shoreline management projects. The effort is designed to make the application more user-friendly and to coordinate management programs by incorporating applicable provisions of the Chesapeake Bay Preservation Act and the Nontidal Wetlands Act. VMRC is also in the process of drafting a "short version" of the JPA specifically for shoreline stabilization projects. In addition, state agencies are working closely with the Corps to develop a web-based system for JPAs.



*Natural shorelines (above) provide habitat for fish, birds and other wildlife. They also protect water quality by trapping excess nutrients and sediment. Photo courtesy of VIMS.*





The eApplication will provide regulatory and policy information to prospective applicants, electronic submission of application data, and status reports available for the applicant.

**Bay Act Buffer Manual, Shoreline WQIA, and Shoreland Planning Initiative:** The Department of Conservation and Recreation's Division of Chesapeake Bay Local Assistance, with assistance from the Virginia Coastal Program, has developed the *Riparian Buffers Modification and Mitigation Guidance Manual*. The manual provides guidance for meeting Bay Act requirements for localities in reviewing proposed shoreline erosion control projects. A corresponding model Water Quality Impact Assessment (WQIA) was also developed to help localities better evaluate the water quality impacts of proposed shoreline management projects. Finally, the Division has undertaken a Shoreland Planning initiative to provide better guidance to localities for managing a wide range of the impacts associated with waterfront development, including the impacts of shoreline erosion control projects.

**Shoreline Management Consensus Document:** In order to provide guidance to property owners and local government decision makers, the Virginia Coastal Program is developing a Shoreline Management Consensus Document. The Virginia Institute of Marine Science (VIMS) is drafting guidance that matches the most appropriate shoreline erosion control practice with a set of commonly seen shoreline conditions. This guidance will be reviewed by relevant state agencies and consensus will be reached on the best practices for a given shoreline situation. The VCP plans on developing a publication for distribution to local officials that clearly depicts this guidance. The publication will also be available over the Internet, and a brochure will be developed for distribution to property owners.

## Policy Analysis

The Virginia Coastal Program has supported efforts to evaluate the shoreline management process and to provide recommendations to improve that process where necessary.

**Shoreline Management Framework:** In the summer of 2003 the VCP supported an internship project to research shoreline management. The result of this research was a report titled *An Analysis of the Current Shoreline Management Framework in Virginia: Focus on the Need for Improved Agency Coordination*. The report includes information on the process and multiple objectives of the current framework, gathered through research and interviews. The report concluded that enhancements to coordination among state agencies as well as improvements in state and local government relations would improve

the shoreline management process. Among the report's recommendations are on-site consultations with property owners and increased shoreline management education. Recommendations from the report were presented at the December 2003 Coastal Partners Workshop and are available on the Web at <http://www.deq.virginia.gov/coastal/publicat.html>.

**Supratidal Beaches Project:** A second Virginia Coastal Program internship in the summer of 2004 focused on the issue of "supratidal beaches" that are not regulated by either the Tidal Wetlands Act or the Coastal Primary Sand Dunes and Beaches Act. These beaches lie above mean high water and are found along the tributaries of the Chesapeake Bay. A report was developed through the internship that evaluates the need for expanded regulatory authority over these beaches, especially to better manage the impacts of shoreline erosion control structures. The report provides information on the current beach management framework, on the shoreline erosion control and habitat values of beaches, and on the potential impact of expanded regulatory authority on local shoreline management programs.

## New Data and Research

Good resource management decisions rely on good scientific understanding and data. The Virginia Coastal Program is funding three projects at VIMS to improve the data available for shoreline management decisions. VIMS has also undertaken research specific to shoreline management that should help with future management decisions.

**Shoreline Change Rates:** Having accurate information on the rate of shoreline change for a particular reach of shore is very useful in determining the most appropriate shoreline erosion control strategy. Data on shoreline change provides information about the dynamics of the shore, and upland risk to wave energy or sea level rise. VIMS will be using historic and recent shoreline data to determine change rates for the entire coastal zone.

**Shoreline Evolution Maps:** Shoreline management must have a historical basis for understanding the potential impacts of various strategies including shore hardening and beach nourishment. For localities with higher energy shorelines, more detailed information is useful on how shoreline features, including adjacent land use, nearshore sand bars, and underwater grass beds, have evolved over time. VIMS is preparing digital and hardcopy datasets for these localities, based on a series of orthorectified aerial photography taken between 1937 and 2002. This data will eventually be available to everyone over the Internet.



*Living Shorelines are shorelines that have been altered by man to protect them from erosion and to create habitat using nature-based techniques such as marsh plantings, beach nourishment, and low profile oyster reefs, breakwaters and sills.*  
*Photo by David Burke.*

# VISIT THIS PUBLIC ACCESS SITE

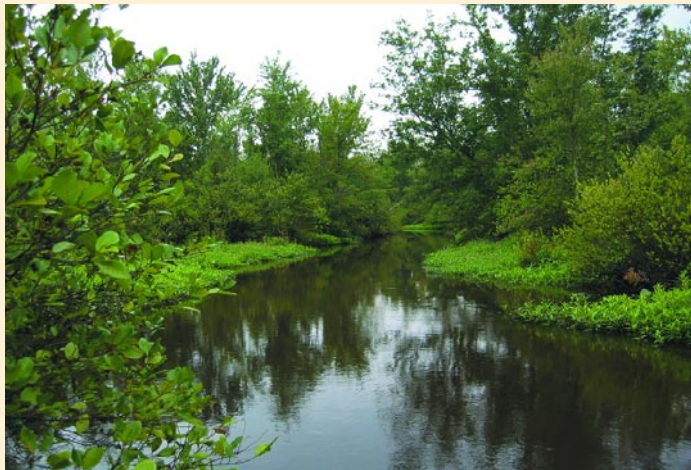
## Securing a Piece of the Dragon

By Julie Bixby, Coastal Planner

Our walk began on a trail sprinkled with deer and turkey prints, bordered along the way by sun-drenched open fields and dark stands of mixed pine forest. It took us over a rickety little bridge, through dense undergrowth and close to the marshy edge of the Dragon Run. Where we came upon it, the Dragon was a small but steadily flowing stream of water meandering southeasterly. A little further downstream it widens in spots deep enough to allow for a serene kayak or canoe trip. It drains into the Piankatank, then the Bay and finally out into the open ocean. But before it gets there, it defines the center of an incredibly unique watershed.

It was easy, every step of the way, to be drawn more deeply into this diverse landscape and to understand how visitors succumb to the magic of the watershed. Its name, Dragon Run, only adds to the mystical allure of this place.

This trip to the Dragon took us to a 274-acre tract of forest and wetlands recently acquired through funding from the Virginia Coastal Program. The adventurers this day included staff from the Coastal Program, the Virginia Department of Forestry, the Middle Peninsula Chesapeake Bay Public Access Authority and The Nature Conservancy, all partners in this acquisition.



*Photo courtesy of the MPPDC.*

“The Nature Conservancy has protected more than 3,100 acres in the Dragon Run, 1,700 acres of which will be sold to the Department of Forestry to create a new state forest. The 274 acre Virginia Coastal Program purchase leverages funding from a grant to the DOF from the Forest Legacy Program, allowing this partnership to preserve even more working lands in the Middle Peninsula,” commented Andy Lacatell, Director of The Nature Conservancy’s Chesapeake Rivers Program.

The Virginia Coastal Program has had a long-standing commitment to preserving the cultural and natural character of the Dragon Run watershed. Since 1986, the Virginia Coastal Program has part-

## New Public Access Authority Begins Mapping Its Trail



The Middle Peninsula Chesapeake Bay Public Access Authority is a new regional governmental entity created in 2003 for the sole purpose of addressing public access issues in its member localities. The member jurisdictions are the Counties of Essex, Gloucester, King and Queen, King William, and Mathews, and the Towns of Tappahannock and West Point.

The Authority members recognize that shorelines are high priority natural areas and that, as population density increases, it is critical that they set aside access sites for all types of recreational activities, such as birding, hunting, fishing, boating, picnicking, and sight seeing. These activities are important to the regional economy and to the citizens of the Commonwealth.

The Authority is charged with the following duties:

1. Identify land, either owned by the Commonwealth or private holdings, that can be secured for use by the general public as a public access site;
2. Research and determine ownership of all identified sites;
3. Determine appropriate public use levels of identified access sites;
4. Develop appropriate mechanisms for transferring title of Commonwealth or private holdings to the Authority;
5. Develop appropriate acquisition and site management plans for public access usage;
6. Determine which holdings should be sold to advance the mission of the Authority; and
7. Perform other duties required to fulfill the mission of the Middle Peninsula Chesapeake Bay Public Access Authority.

Contact Lewis Lawrence at (804) 758-2311 for more information.





*Aerial of the Dragon Run Watershed. Photo courtesy of MMPDC.*

nered with the Middle Peninsula Planning District Commission, the Dragon Run Steering Committee and Middle Peninsula localities, investing over \$800,000, in an effort to ensure that the nearly pristine Dragon Run Watershed remains well protected. As a result of this partnership, the Dragon Run *Special Area Management Plan* (SAMP) was initiated in 2002. Development of the SAMP has successfully pulled together landowners and others interested in preserving the traditional uses and rural character of the Dragon Run to discuss what should be done to address development pressure, manage public access, and promote sustainable agriculture and forestry operations.

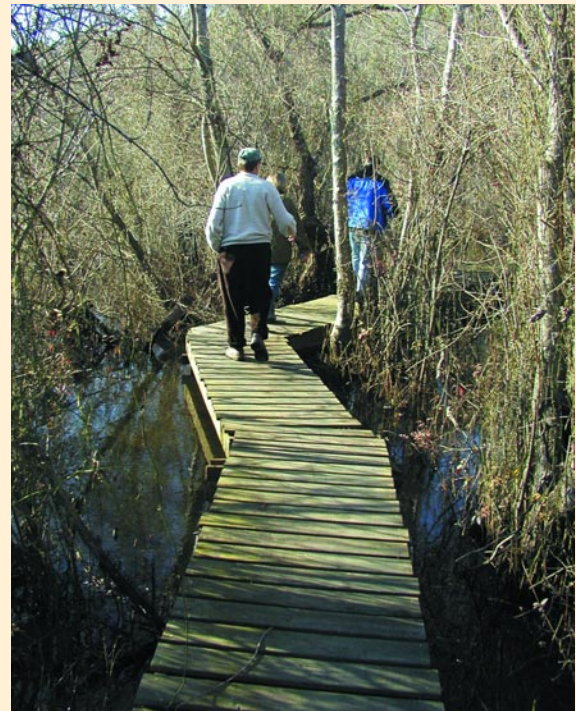
The acquisition, approximately 212 acres in Essex County and 62 acres in King and Queen County, will support the goals of the SAMP by sustaining forestry and hunting activities on the property and providing opportunities for long-term passive public access where it has been previously limited. "The acquisition of this tract is a major success toward the provision of public access opportunities for the residents of Essex County and the region," added Prue Davis, adjacent landowner and member of the Essex County Board of Supervisors.

The Department of Forestry and the Middle Peninsula Chesapeake Bay Public Access Authority will jointly manage the property and ensure that all future uses of the land are compatible and in accordance with a stakeholder plan currently being developed. Located within a major forest belt on the Middle Peninsula, the site has been managed historically for commercial grade sawtimber, primarily

loblolly pine. There are 17 acres of forested wetlands, which consist largely of mature hardwood communities (greater than 75 yrs old). Although the owner recently clear-cut 131 upland acres, it is anticipated that pine and mixed hardwoods will naturally regenerate on the site.

"The Dragon Run is an incredible coastal resource of national significance. We are so fortunate to be able to partner with the Middle Peninsula Chesapeake Bay Public Access Authority, the Department of Forestry, and The Nature Conservancy to protect this coastal treasure," added Laura McKay, Manager of the Virginia Coastal Program. "It is very gratifying to see what can happen when nonprofits and federal, state, regional, and local governments work together." 🐟

*For more information about the Dragon Run Special Area Management Plan, contact David Fuss, MMPDC, at (804) 758-2311 or [dfuss@mppdc.com](mailto:dfuss@mppdc.com), or Julie Bixby, Virginia Coastal Program, at (804) 698-4333 or [Julie.Bixby@deq.virginia.gov](mailto:Julie.Bixby@deq.virginia.gov).*



*Photo by Julie Bixby, VCP.*

### *Watershed Management Plan Now Available for the Dragon Run Watershed*

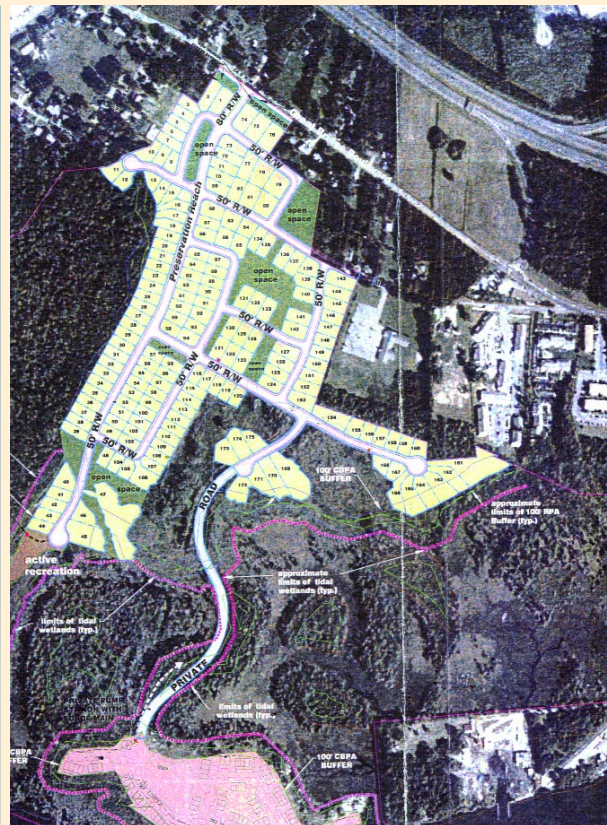
A management plan for the Dragon Run Watershed was completed in November 2003. The plan, produced with input from citizens, stakeholders, and decision-makers, recommends proactive steps toward preservation of the area's rural character and ecological integrity. It focuses on planning approaches currently underway by the steering committee and the Coastal Program. It then outlines watershed goals and objectives as well as resource needs, including education and landowner stewardship, control of invasive species, and addressing public and landowner access issues.

The Dragon Run Watershed Steering Committee hopes the plan will serve as a mechanism for comparing baseline watershed information to future results. The plan is described as, "not a static document," but rather a citizen-initiated vision for the future of the Dragon Run. The plan is available online: [http://www.mppdc.com/projects/Dragon\\_WMP\\_final.pdf](http://www.mppdc.com/projects/Dragon_WMP_final.pdf)

## Green Neighborhoods: Chesapeake's Preserve on the Elizabeth

A new subdivision is currently under construction in Chesapeake. What sets this subdivision apart from the rest? The Preserve on the Elizabeth is a neighborhood designed to pay particular attention to the conservation of environmentally sensitive areas.

The subdivision was designed by Randall Arendt, a land-use planner, site designer, author, lecturer, and an advocate of “conservation planning.” He is the author of more than 20 publications including “Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks.” He has designed “conservation subdivisions” for a wide variety of clients in 16 states.



Mr. Arendt was hired by the Hampton Roads Planning District Commission, through a grant from the Virginia Coastal Program, to assist the PDC in meeting one goal of the Southern Watershed Special Area Management Plan (SWAMP): development of site plans for conservation subdivisions in Chesapeake and Virginia Beach in order to provide examples of conservation design.

the Elizabeth will spur future developers to take an interest in subdivisions designed with conservation in mind.

For more information about the subdivision and the Southern Watershed Special Area Management Plan, please contact Eric Walberg, HRPDC, at (757) 420-8300 or [ewalberg@hrpdc.net](mailto:ewalberg@hrpdc.net).

- Crater PDC
- Rappahannock Area Development Commission
- Richmond Regional PDC
- Northern Neck PDC
- Middle Peninsula PDC
- Northern Virginia Regional Commission
- Hampton Roads PDC
- Accomack-Northampton PDC



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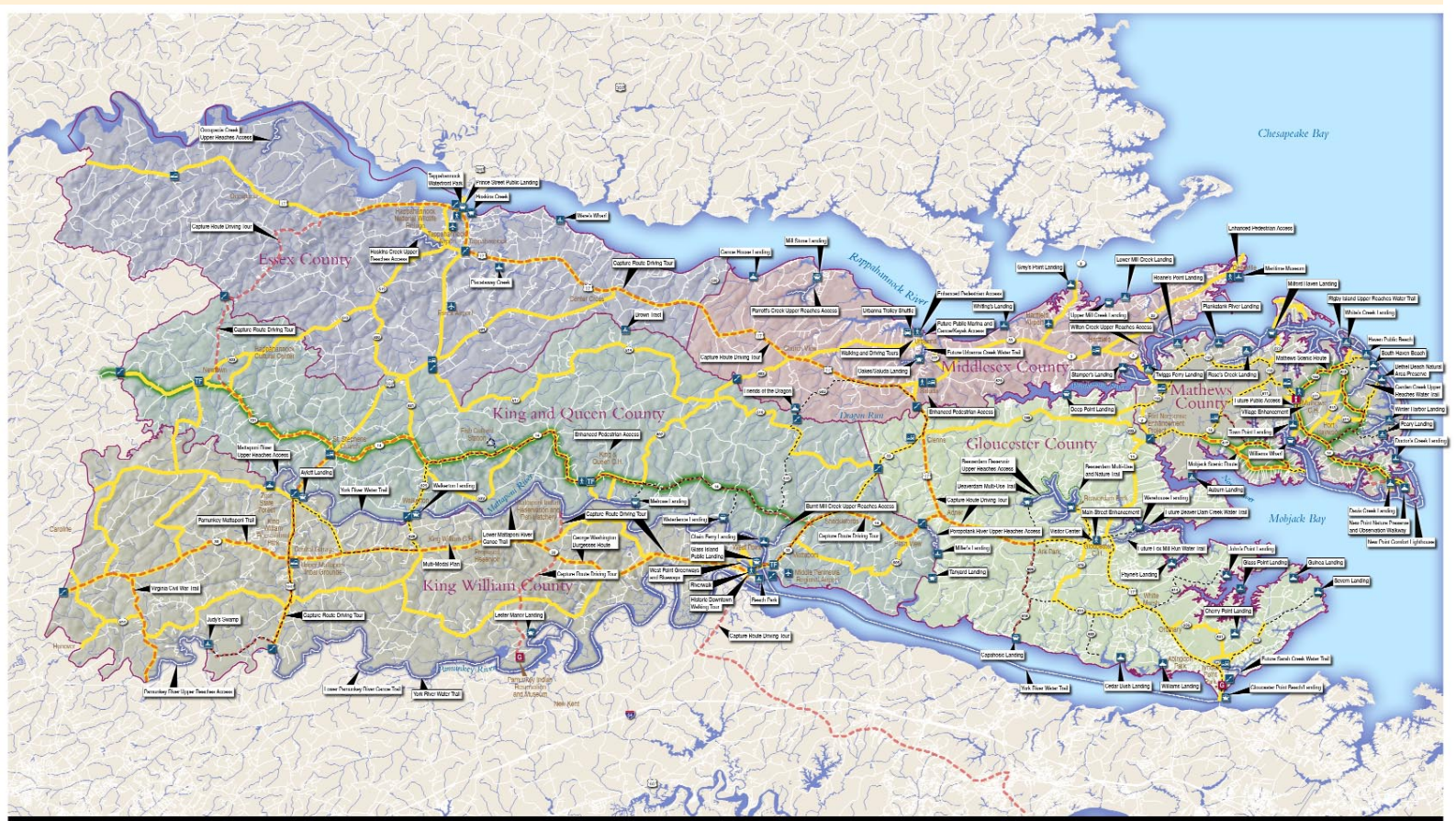
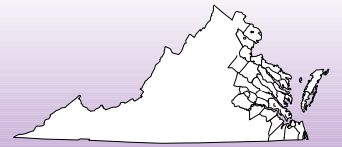
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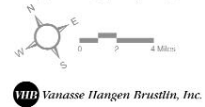
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- G** Chesapeake Bay Gateway Site
- I** Regional Information Center

**King & Queen Heritage Gateways and Trails**

- TF** Regional Tourism Focus Area
- GS** Gateway Sign

- Limited Public Access
- Public Access
- Park & Ride
- Gateway Sign

- Airport
- Sidewalks

- Virginia Byway
- Water Trail
- Birding/Wildlife Trail
- Planned Bike Routes
- Driving Tour

Alternative Transportation Study  
Middle Peninsula Planning  
District Commission

**Regional Map**

# Middle Peninsula Regional Multi-Modal Transportation Plan

Virginia's Middle Peninsula is a rural and suburban region within the Coastal Plain. The area's history and relationship to water-based transportation and economic lifelines form a rich cultural context that is not well served by a sound and balanced transportation system.

To address this deficiency, the region's six counties, three towns, and other interested entities have over time developed numerous and isolated plans for bicyclists, pedestrians, boaters and canoeists/kayakers. Although a significant amount of work has been done and significant money spent, no comprehensive inventory of these measures exists from which to develop a truly regional multi-modal transportation plan.

To maximize the benefit of these local efforts, link various modes of transportation, and to minimize the level of future investment, this plan will serve as a foundation to provide a sound and balanced transportation system within the Middle Peninsula.

The Middle Peninsula Chesapeake Bay Public Access Authority, which is partially funded by the Virginia Coastal Program, upon completion of this initiative, will assess the mapping results and begin to develop public access density recommendations for both passive and active public access activities.

Funding for the Middle Peninsula Regional Multi-Modal Transportation Plan was provided, in part, by the Virginia Coastal Program and the Virginia Department of Transportation.

For more information about this project, please contact Lewie Lawrence, MPPDC, at (804) 758-2311 or llawrence@mppdc.com.



# Virginia's Seaside Heritage Program: Highlights of Year Two

By Laura McKay, Coastal Program Manager



Year two of the Coastal Program's focus on restoring the ecology and economy of the seaside of Virginia's Eastern Shore is nearing completion. Funding for year three begins this October.

An Internet Mapping System (IMS) for the Seaside Heritage Program (SHP) is now on the DEQ Web site (<http://gisweb.deq.virginia.gov>). As more geospatial data is collected it will be posted there. As reported last time in this magazine, seagrass restoration is going very well. The grasses survived Hurricane Isabel and continue to thrive where once there was bare, sand bottom. Mapping of the invasive reed, *Phragmites*, from a helicopter continues and shorebird concentration areas have been mapped. Shorebirds are responding well to predator removal efforts on several of the barrier islands. Last spring was one of the most successful piping plover breeding years ever. Ecotourism efforts are booming (see column on right). The Seaside Canoe/Kayak Water Trail will be available on our Web site soon. And a document called "Best Management Practices for Clam Aquaculture" has been drafted. The SHP has a new costumed character mascot, "Seacil the Seahorse," "who lives in the seagrass" (see photo below). Seacil carries baby seahorse cookie cutters in his pouch that bear the message "Support Seagrass Restoration." See page 18 for photos of Seacil's debut at the Smithsonian Folklife Festival.



*Omar of the Reef and Seacil of the Seagrass boarded the Shorekeeper boat to meet the new Eastern Shorekeeper, Richard Ayers, and survey Virginia Seaside Heritage Program seagrass and oyster reef restoration sites. Photo by Virginia Witmer, VCP.*

## New Eastern Shorekeeper Takes the Helm

A new aspect of the Seaside Heritage Program began in this second year. The Virginia Coastal Program and the Campbell Foundation have joined forces to fully fund a position and program called The Virginia Eastern Shorekeeper (VES). Richard Alan Ayers was hired as the official "Shorekeeper." VES is a 501(c)(3) non-profit corporation organized by local citizens dedicated to the protection of water quality in and around Accomack and Northampton counties. It is one of more than one hundred such organizations affiliated with the international Waterkeeper Alliance.

## Seaside Program Highlight:

### Ensuring Sustainable Ecotourism

### First Ecotour Guide Certifications Awarded



Virginia's first Ecotour Guide Certification Course was held on November 17-18, 2003 at the Virginia Institute of Marine Science's Eastern Shore Lab in Wachapreague.

The course, initiated and funded by the Virginia Coastal Program, and hosted and sponsored by VIMS, was an ecotourism enhancement component of the Virginia Seaside Heritage Program. The day-long course included field activities and attracted 24 local operators and others involved in ecotourism. Speakers included Coastal Program staff, as well as representatives from the Nature Conservancy, William & Mary's Center for Conservation Biology and VIMS. Subjects covered included cultural history, geology, sustainable ecotourism, and biology/ecology of animal species.

Nineteen of the attendees passed the required final exam and received certificates good for three years, and official ecotour guide stickers denoting their new status as certified operators.

For more information on the Ecotour Guide Certification Program, please contact Dr. James Perry at (804) 684-7388 or [jperry@vims.edu](mailto:jperry@vims.edu).



*Participants in the first Ecotourism Guide Certification Training Course learned in the field...*



*...and in the classroom before taking a final exam to earn their certification. Photos by Kendell Jenkins, DGIF.*

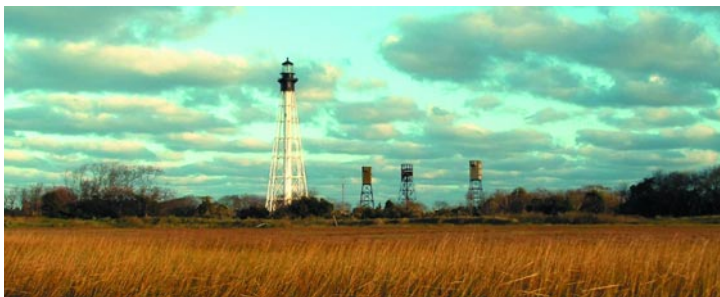


As a retired Chief Boatswain Mate with twenty-two years in the US Coast Guard, Ayers is extremely well suited to his new job. He last served as Officer in Charge of the Parramore Beach Station and then spent eight years as Island Programs Director for the Virginia Coast Reserve of The Nature Conservancy.

Ayers' first responsibility is to organize and train volunteer local citizens who will serve as "Creek Watchers" and be the "eyes and ears" for their local creeks. The Shorekeeper and his team will conduct year-round observations and:

- educate the public through newsletters, press releases, fact sheets, and presentations;
- ensure oyster sanctuaries, eelgrass beds, and shorebird nests are not disturbed and report any harmful activities to appropriate government agencies;
- investigate citizen complaints, help resolve use conflicts, and, if all else fails, initiate civil action;
- analyze zoning and permit actions and prepare formal public comment when appropriate.

As the Virginia Eastern Shorekeeper, Richard Ayers already knows there is work to be done. "Folks that live, work or play on the water know when something is out of place. I can take their concerns and help determine if our local waters are being threatened," said Ayers. The Shorekeeper program can alert the proper agencies before real damage to the environment occurs. Contact The Shorekeeper at (757)678-6182 or shorekeeper@esva.net.



**Elizabeth Rogan, a member of the SeaWatch Project team, perches in her office atop the 191 foot Cape Charles Lighthouse, pictured above. Using a high-powered spotting scope, Rogan recorded the numbers and flight patterns of migrating seabirds above Smith Island on Virginia's Eastern Shore. Photos courtesy of William and Mary.**



## *Bird Migration Monitoring Efforts Multiply*

All kinds of birds migrate through Virginia's Eastern Shore each fall. They move down the bayside and the seaside and concentrate at the southern tip. Neotropical songbirds, shorebirds, raptors, and waterfowl all use the Eastern Shore extensively.

The Seaside Heritage Program gained another partner last fall when the Virginia Department of Mines, Minerals and Energy (DMME) gave a \$46,727 grant to the Coastal Program to conduct Virginia's first systematic seabird migration watch. The Coastal Program contracted with William and Mary's Center for Conservation Biology (CCB) to conduct the observations from the 191 foot tall Cape Charles Lighthouse on Smith Island. A team of experts (some of them volunteers) using high-powered spotting scopes and binoculars recorded 71,298 seabirds of 38 different species last November 9 through December 20, and 42,808 seabirds of 27 species this March



**The Northern Gannet, a strictly maritime species boasting prominent black-wing tips, was one of the commonly spotted species during Virginia Sea Watch last November. Northern Gannets winter from Virginia south to Florida, and nest near Newfoundland and Nova Scotia. The nesting colony pictured above was photographed in 1966 on Bonaventure Island in the Gulf of St. Lawrence. In the mid-80's it was estimated that 15,000 pairs bred at this site. Photo by Dr. Jeffrey Spendelov, USGS.**

14 through May 13. The spotters recorded the birds' distance from shore and altitude above the water while a wireless weather station recorded meteorological conditions. DMME wants this information to better assess potential impacts of wind farms along the seaside of Virginia's Eastern Shore.

According to Bill Williams of the CCB, "During last November/December's watch, the most abundant seabirds were Dark-winged Scoters (42% of all seabirds seen) followed by Northern Gannets (25%). During the March-May watch, the most abundant seabirds were Double-crested Cormorants (40%) and Loons (26%)."

Project partners had hoped that NASA's Doppler radar equipment, installed last November on The Nature Conservancy's property in the seaside village of Oyster, could be used to detect low altitude seabird movements. However, initial attempts to use the radar for this purpose were uncertain. This radar is proving very successful for use in detecting large masses of higher-flying neotropical songbirds during their evening migrations.

In efforts tangential to the Seaside Heritage Program, the Coastal Program and its partners (US Fish & Wildlife Service, Dept.

# Virginia's New Strategy for Wildlife Conservation

By Kathy Quindlen Graham, DGIF

The Virginia Department of Game and Inland Fisheries (DGIF) is leading a project to develop a comprehensive strategy for managing and conserving wildlife and their habitats in Virginia. Two sources of federal aid—The Wildlife Conservation and Restoration Program (WCRP) and the State Wildlife Grants (SWG)—require that all states receiving these funds develop such a strategy by October of 2005. (For more information about these federal programs and efforts to secure stable funding for wildlife conservation visit [www.teaming.org](http://www.teaming.org).) The strategy will be developed in cooperation with government, business, and non-profit partners and with input from citizens. It will provide a common vision for wildlife conservation that will help target limited funds toward common goals.

According to Congress, the following elements must be included in the strategy: a description of the species of greatest conservation need, a description of locations and conditions of the key habitats of these species, an analysis of threats to these species and habitats, a description of conservation actions needed to conserve these species and habitats; plans for monitoring species and habitats, as well as the effectiveness of the conservation actions; and a plan for involving other agencies, groups, and the general public in development, implementation, review, and revision of the strategies. The document will also describe plans to review the strategy at least every 10 years.

The Department of Game and Inland Fisheries in cooperation with partners and experts, has developed Virginia's list of *Species of Greatest Conservation Need*—a list that contains a total of 925 species. An initial list of species was compiled by DGIF and reviewed by groups of taxonomic experts. The species

are ranked into *four tiers of relative imperilment*. The fact that Virginia has so many species that have been the focus of conservation concern is a testament to the incredible biodiversity found in the Commonwealth—as well as the serious threats these species are facing. Of particular interest in the coastal zone are these highly-imperiled (Tier 1) species: The shortnose sturgeon, *Acipenser brevirostrum*, thought to be extirpated but having a chance for recovery; the loggerhead sea turtle, *Caretta caretta*, which forages in bay estuaries and occasionally nests on the Eastern Shore; the chicken turtle, *Deirochelys reticularia*, basking in cypress ponds only in Seashore State Park; the piping plover, *Charadrius melodus*, that lays its eggs in the sand of the barrier islands; and the black rail, *Laterallus jamaicensis*, a secretive bird of coastal marshes.

The Department of Game and Inland Fisheries is currently identifying and mapping the habitat of each of the most imperiled species. This process involves an exhaustive review of the literature



*The chicken turtle, **Deirochelys reticularia**, basks in cypress ponds only in Seashore State Park. Photo by John White.*

## Tiers of Relative Conservation Need

**Tier 1: Critical Conservation Need.** Faces an extremely high risk of extinction or extirpation. Populations of these species are at critically low levels, facing immediate threat(s), or occur within an extremely limited range. Intense and immediate management action is needed.

**Tier 2: Very High Conservation Need.** Has a high risk of extinction or extirpation. Populations of these species are at very low levels, facing real threat(s), or occur within a very limited distribution. Immediate management is needed for stabilization and recovery.

**Tier 3: High Conservation Need.** Extinction or extirpation is possible. Populations of these species are in decline or have declined to low levels or are in a restricted range. Management action is needed to stabilize or increase populations.

**Tier 4: Moderate Conservation Need.** The species may be rare in parts of their range, particularly on the periphery. Populations of these species have demonstrated a significant declining trend or one is suspected which, if continued, is likely to qualify this species for a higher tier in the foreseeable future. Long-term planning is necessary to stabilize or increase populations.

(March 2004)

and coordination with experts to identify essential habitat. Then spatial data is used to create maps of where these habitats are thought to occur in Virginia. Finally, the primary threats to these habitats are identified and strategies developed for their conservation.

As part of the habitat mapping effort, DGIF is developing an aquatic classification for Virginia. The classification will group streams



*The shortnose sturgeon, **Acipenser brevirostrum**, was thought to be extirpated but has a chance for recovery. Photo by Duane Raver, courtesy USFWS.*

into classes according to factors such as the region in which they are located, their size, the geology underlying the stream, the elevation of the stream, and the stream's biological community. DGIF will map where imperiled fishes, amphibians, mussels, crayfish, snails, and other aquatic invertebrates are known to occur. Then they will develop a model to predict where species are likely to occur based on their habitat requirements and the aquatic classification. Strategies for protecting these streams and their watersheds will then be developed with input from experts, partners, and stakeholders.

Public involvement is very important to ensure that the strategies involve private citizens and landowners to the extent possible.



# WEB SITE HIGHLIGHT

## Virginia Fish and Wildlife Information Service Re-Engineered

By Amy Martin, DGIF

The Virginia Department of Game and Inland Fisheries (DGIF), in cooperation with the Conservation Management Institute (CMI) at Virginia Polytechnic Institute and State University (VA Tech), has re-engineered the Virginia Fish and Wildlife Information Service (VAFWIS). The VAFWIS is an on-line service that makes the most current and comprehensive information about Virginia's wildlife species available to everyone at: <http://www.dgif.state.va.us>. Click on "Virginia Fish and Wildlife Information Service" in the box towards the top of the page to access the VAFWIS.

The VAFWIS provides instant access to wildlife information and is a valuable tool for making decisions about land management, planning, and environmental impacts of projects. Users can query geographically for the presence of wildlife including threatened and endangered species, trout streams, anadromous fish, and other wildlife resources. Users can also access distribution, food habit and life history information for over 3,000 of Virginia's wildlife species. The VAFWIS includes information from numerous sources including DGIF monitoring efforts, collections by researchers permitted through the Scientific Collections process, peer-reviewed journal articles, and museum collections. Data sets provided by organizations outside of DGIF, such as the US Fish and Wildlife Service and the National Audubon Society, are also included.

As the agency with regulatory authority over threatened and endangered wildlife species (except threatened and endangered insects which are regulated by DACS) and all wildlife on the state level, DGIF is committed to maintaining current data on wildlife resources and their habitats and providing this information to all who need it. In doing so, DGIF strives to promote educated and responsible land use decision making, an increased understanding of Virginia's wildlife and the efficient flow of accurate, credible data to and from DGIF biologists, the public and educators.

The system was re-engineered to update it with software familiar to today's programmers and data managers. The VAFWIS is now able to interface with a variety of other software programs, including Geographic Information System (GIS) software. The re-engineering also allowed for an updated look and feel, improved mapping functions, new query and reporting options, and new databases and

spatial data layers. The new Threatened and Endangered Species Waters, Anadromous Fish Use Areas, and Impediments databases and associated spatial coverages are now available through the VAFWIS along with updated databases such as the Cold Water Stream Survey and Colonial Waterbirds database.

Although the transition to a new information system can be difficult and a bit frustrating, user surveys submitted to DGIF suggest that most users are satisfied. Overall VAFWIS users seem to be getting the hang of the new system and expressing their enthusiasm about it as demonstrated by comments like: "Keep up the great work" and "I always find the information I need – so thanks for providing a much needed service."

Excitement like this from the users helps keep the VAFWIS re-engineering team committed to the project which has now entered the "Enhancements Phase." New enhancements will include the ability to search areas in Virginia such as State Parks, USFWS Refuges and Watersheds; the integration of databases that are currently under revision, such as the Observation Book database; and the addition of Terrestrial GAP components.

For more information about the Virginia Fish and Wildlife Information Service, please contact Amy Martin, DGIF, at 804-367-2211, or at [amy.martin@dgif.virginia.gov](mailto:amy.martin@dgif.virginia.gov).




A screenshot of the Virginia Fish and Wildlife Information Service web application. The interface includes a search bar at the top with the coordinates "37,35,21 77,00,50" and buttons for "Submit" and "Cancel". Below the search bar are options for "Search Point" (Change to "clicked" map point or Fixed at 37,35,21 77,00,50) and "Show Position Rings" (Yes or No). A "Base Map Choices" dropdown is set to "Topography". A "Map Overlay Choices" dropdown is set to "Current List: Search". A "Map Overlay Legend" shows "Position Rings" and a "3 mile radius Search Area". The main map area displays a topographic map of Virginia with various labels like "LIBERTY HALL", "ELKING GREEN", "WHITE HOUSE", "PAMUNKEY INDIAN RESERVATION", and "PAMUNKEY RIVER". The map is overlaid with a search area and position rings. The interface also includes a "Help" link, a "Map Scale" indicator, and "Zoom In" and "Zoom Out" buttons. A "Screen Size" indicator shows "Small", "Size", and "Big" options.

**Supratidal Beaches Inventory:** This project complements the policy analysis project described on page 3 by providing data on the location of supratidal beaches (above mean high water). Aerial video and 2002 Virginia Base Mapping Program imagery will be used to determine the location and extent of beaches in 19 localities not covered by the Coastal Primary Sand Dunes and Beaches Act. Taken together with the analysis of beach management policies, this data will be used to evaluate a VIMS/Coastal Policy Team recommendation for expanded protection of beaches.


**Fringe Marsh Values:** VIMS has conducted research on the habitat value of fringe marshes as compared to that of riprap revetments (large boulders placed on the shoreline). In general, the research concluded that the fringe marsh areas were much more important habitat because they contained more fish, a wider variety of fish, and some smaller fish (indicating importance as a nursery

area). This information should be taken into account by local wetlands boards as they consider shoreline management proposals.

The Virginia Coastal Program will continue its efforts to improve coordination among agencies and local governments charged with shoreline erosion control management decisions. Through these actions, as well as planned outreach efforts for the general public, waterfront land owners can continue to protect their property from erosion, but also minimize their costs and maximize water quality, wildlife habitat, and natural beauty. 

*For more information about the VCP's shoreline management coordination activities, please contact Shep Moon at (804) 698-4527 or [Shep.Moon@deq.virginia.gov](mailto:Shep.Moon@deq.virginia.gov).*

### **Wildlife Conservation Strategy...** *Continued from page 10*

Through public meetings and an interactive web site, citizens may submit questions and comments or engage in an online discussion. This web site will be located at [www.vawildlifestrategies.org](http://www.vawildlifestrategies.org). 

*For more information about the Comprehensive Wildlife Conservation Strategy, please contact Rebecca Wajda, Project Manager, DGIF, at (804) 367-8351, or Kathy Quindlen Graham, Core Team Leader, DGIF, at (804) 367-6913 or [wildlifeplan@dgif.state.va.us](mailto:wildlifeplan@dgif.state.va.us).*

## **Virginia's Species of Greatest Conservation Need**

Mammals	24
Birds	96
Fish	97
Reptiles	28
Amphibians	32
Mussels	61
Aquatic crustaceans	61
Aquatic insects	148
Terrestrial insects	142
Other aquatic invertebrates	34
Other terrestrial invertebrates	202
Total	925



*In 1986, the US/Canada Atlantic Coast Piping Plover breeding population was listed as federally threatened under provisions of the US Endangered Species Act. Virginia is part of this population's southern breeding range and since 1986 has supported a relatively stable number of nesting pairs. However, the Piping Plover has many natural enemies. Humans visiting the bird's nesting sites on Virginia's barrier islands during the breeding season may scare the birds off their nests, causing the eggs to cook in the hot sun within 3 minutes. Photo courtesy of DGIF.*



*The Spotted Salamander, a Virginia native species, generally occurs statewide except for the Eastern Shore and localities southeastward from Suffolk, Newport News, and Hampton. Local populations of spotted salamanders and other *Ambystoma* species are becoming increasingly isolated as habitat fragmentation, deforestation, and loss of breeding ponds reduce gene flow among populations. Also, as roads separate adults from their breeding ponds greater numbers of salamanders may be killed each year by vehicles. Photo by John White and courtesy of DGIF.*



# A Busy Summer on Virginia's Beaches For Stranding Team

By Mark Swingle, Virginia Aquarium and Marine Research Center

Virginia has a very dynamic and diverse marine environment. This is evidenced by the incredible array of marine mammals and sea turtles that can be found off Virginia's coast. Regretfully, it is also reflected in the animals found on Virginia's beaches. Some of us have been lucky to see, dolphins, seals and sea turtles frolicking in the waves or gliding effortlessly under water. However, for the stranding team at the Virginia Aquarium and Marine Science Center, reality has a different face. Since 2000, an alarming and growing number of sea turtles are stranding on Virginia's shores.

Strandings can be indicators of the presence of species, the relative health of populations and of impacts to their environment. For these reasons, the increasing numbers of sea turtle strandings on Virginia beaches has raised concerns over the past several years.



**Stranded Loggerhead sea turtle. Photo courtesy of VAMSC.**

Sea turtle strandings occur primarily in the late spring, summer and fall. During the 1990's the Center's Stranding Team (ST-Team) responded to an average of 83 sea turtle strandings per year. These numbers took a dramatic climb, when starting in 2000, an average of 315 sea turtle strandings per year were recorded. The record year for sea turtle strandings in Virginia occurred in 2003 with 529 strandings. Only in Florida were more sea turtle strandings recorded during 2003. The ST-Team and trained stranding network cooperators responded to 460 of the strandings, which occurred primarily along the ocean and lower bay shorelines. A large percentage of the stranded turtles were found on the eastern shore of Virginia.

So, why are so many sea turtles stranding on Virginia's beaches? The answers are not easy to come by. Many stranded sea turtles are too decomposed for detailed examinations. For those that are fresh, the ST-Team conducts extensive necropsies (animal autopsies). Through careful examination of stranded turtles, it is sometimes possible to find signs of what may have caused a stranding. Injuries related to boat strikes, ingested hooks or trash, entanglements in fishing gear and dredging are examples of human related impacts that can cause sea turtles to strand. Shark predation, bio-toxins and disease are examples of natural causes of sea turtle mortalities. The National Marine Fisheries Service (NMFS) has been conducting surveys and working with state and local organizations to try and determine the causes of the strandings. By carefully documenting the many circum-

stances that impact sea turtles in Virginia waters, the ST-Team can better understand what causes turtle strandings and can work with groups such as boaters and fishers towards improved turtle conservation measures.

On a more uplifting note, sometimes stranded animals are still alive and can be successfully treated for their illnesses or injuries. In 2003, the ST-Team recovered 14 live sea turtles and 7 seals in Virginia. Eight of the turtles and 5 of the seals were successfully treated, rehabilitated and released. Throughout the rehabilitation process, ST-Team members take care to minimize contact with the animals so that they do not become conditioned to or dependent on human care. This is extremely important if the animals are to be good candidates for release. Depending on the condition of the turtle, treatment

and rehabilitation can be as short as several weeks or as long as several years. Sea turtles are held in medical and rehabilitation pools during their stay at the Stranding Center. ST-Team members may spend

*Continued on page 15*



**A sea turtle is examined by a veterinarian at the Virginia Aquarium and Marine Science Center Stranding and rehabilitation Facility.**



**Cameron, a harbor seal, rests in a special pool waiting for release. Photos courtesy of VAMSC.**

All marine mammals and sea turtles are designated as protected species by the Marine Mammal Protection Act and/or the Endangered Species Act. With annual grants from the Virginia Coastal Program, the Virginia Aquarium and Marine Science Center Foundation Stranding Team (ST-Team) has been responding to marine mammal and sea turtle strandings in Virginia for many years. Strandings have included 30 different species of marine mammals, including cetaceans such as harbor porpoises, bottlenose dolphins, humpback and finback whales; and, pinnipeds such as harbor, grey, harp and hooded seals. Five endangered species of sea turtles inhabit and strand in Virginia's waters: Loggerhead, Kemp's ridley, Leatherback, Atlantic hawksbill and the Atlantic green sea turtle.

The ST-Team responds to all marine mammal strandings in Virginia and currently maintains the state marine mammal stranding database. In addition, the ST-Team and their cooperators respond to sea turtle strandings along the lower Chesapeake Bay and Atlantic shorelines. Sea turtle stranding data are recorded in the state sea turtle stranding database maintained at the Virginia Institute of Marine Science (VIMS) in Gloucester Point.

# Virginia Oyster Heritage Program Highlights

## Students Dive into Oyster Research

*By Tamra Willis, Mary Baldwin College*

The study of oysters is typically considered a scientific endeavor, but it also may involve reading, writing, math, and social studies. Just ask elementary students in the Tidewater region of Virginia who raised oysters as part of a year-long study of the bivalve during the 2003-04 school year.

Students at Willoughby Elementary School in Norfolk and Newsome Park Elementary School in Newport News participated in an oyster restoration project funded by a challenge grant to the Virginia Coastal Program from the Virginia Environmental Endowment (VEE) and the Virginia Oyster Reef Heritage Foundation (VORHF). The Master of Arts in Teaching Program at Mary Baldwin College in Staunton directed the project for the Office of Environmental Education at Virginia Department of Environmental Quality.

Students began the projects in the fall of 2003 by placing baby oysters into oyster floats at saltwater marinas near their schools. Once a month, the oysters were cleaned, culled, counted, and measured, and students collected data on growth and mortality. In nicer weather, the students went to the marinas in small groups, but sometimes the teachers brought the oysters to school for the day.

Interest in the project and the oysters was so high that teachers had a hard time getting students to stop for lunch. Students studied the natural history and economics of oysters in Virginia. They tallied, added, and graphed; collected water temperature and salinity



*Photo courtesy of Mary Baldwin College.*

and weather information; wrote in journals; and produced research papers. This integrated approach helped teachers better cover the Virginia Standards of Learning and increased student achievement in many subjects.

To make oyster restoration activities a sustained part of the school curricula, teachers participated in several professional development workshops, including a weeklong session at Mary Baldwin College to learn how to use the environment as an integrated context for learning. The process, developed and taught by the State Education and Environment Roundtable, was designed to teach educators how to use natural areas near their schools as frameworks to teach all subjects. In addition to the training session, an oyster education and restoration workshop was held in Gloucester Point at

the Virginia Institute of Marine Science (VIMS). Laurie Sorabella of Oyster Reef Keepers and Bob Carroll of the Chesapeake Bay National Estuarine Research Reserve (CBNERRVA) at VIMS made presentations. Teachers from the elementary schools learned the history of and problems facing oysters in Virginia, observed oysters filtering murky water, made oyster floats, and dredged for oysters in the York River. The teachers left the workshop with the materials and knowledge needed to implement the oyster project with their students.

Students from both schools also participated in a "professional" day to share information about their oyster projects. The First Annual Oyster Summit was held at Newsome Park Elementary last April. Fourth grade students from the two schools were paired for a day filled with oyster discussions and activities. The students had opportunities to tong for oyster shells, test electronic probes, talk with a marine patrol officer, classify shells, observe oyster shucking, and taste fried oysters. They shared ideas, stories, and data with each other during an oyster "jam" session.



*Photo courtesy of Mary Baldwin College.*

During the spring, the students released their oysters onto established oyster reefs. Some of the students went by boat to a reef in the Bay with the Chesapeake Bay Foundation. Others walked to a reef during low tide in the lower York River on a trip led by CBNERRVA with NOAA funding. The students collected minnows, observed molting blue crabs, and studied the tidal ecosystem. Most importantly, the students carefully "planted" the young oysters onto the oyster reefs, completing their roles as oyster gardeners.

The idea that oysters can be used to more effectively teach many subjects is obvious to anyone who observed students participating in the oyster projects. The students are focused and excited about everything related to oysters. The smelly classrooms and muddy desks did not seem to faze the students; they worked intently, making observations and recording data. Their enthusiasm was contagious and presented an added benefit of this project. The students shared their knowledge of oysters and oyster problems with family and friends. They experienced personal connections with oysters and the coast that should continue into adulthood. Through the oyster restoration project, these young students became better stewards of our coastal waters.

*Tamra L. Willis, Ph.D., is the Director of Environment Based Learning Projects in the Master of Arts in Teaching Program at Mary Baldwin College.*



## Oyster Reef Restoration and Monitoring Efforts Continue...



*(Left) Last May, Coastal Program staff, Virginia Witmer and Krista Trono, helped stock a sanctuary reef on the Lynnhaven River with oysters grown at the Chesapeake Bay Foundation's Oyster Farm on Sarah's Creek in Gloucester. Photo by Krista Trono, VCP.*



*(Right) While out on the river, the CBF boat met up with a group monitoring another restored reef site on the Lynnhaven. Working together on the monitoring effort were the Virginia Marine Resources Commission, NOAA's Chesapeake Bay Office, CBF, and Oyster Keepers (an educational non-profit). Photo by Virginia Witmer, VCP.*

### *Beach Strandings on Rise... Continued from page 13*

several hours per day medicating and feeding these sea turtles. Seals are treated in a similar fashion. Intensive care is provided when the seals first arrive and they are held in a triage pen. Once the animals are stronger and judged to be good candidates for rehabilitation, they will be transferred to rehabilitation facilities at the Stranding Center or elsewhere in the northeast stranding network. The Stranding Center has only one seal rehabilitation pen and therefore must transport additional seals to other facilities for long term care. Depending on an animal's initial condition, seal treatment and rehabilitation can last from several weeks to many months.

Once stranded animals are healthy, the ST-Team prepares for the exciting release back to the wild. Planning for a release includes both assessment of an animal's health and the environmental conditions at potential release sites. For example, releasing a rehabilitated sea turtle into Virginia waters is not possible in winter due to the extremely cold temperatures. In contrast, summer waters are too warm for the release of seals. Once these factors are assessed and the animals have a clean

bill of health from our veterinary staff, the release is scheduled. Most releases can be conducted from the beach and often include onlookers from the general public as well as ST-Team volunteers and staff. Occasionally, sea turtles are transported offshore to warmer waters for release. All animals are tagged prior to release as a means of tracking their movements and post-release success. Tags can be as simple as flipper tags for turtles and paint spots for seals, or as sophisticated as satellite and radio tags. The ability to track animals after their release can provide valuable information regarding the behaviors and survival of seals and sea turtles in the wild. 🐡

*Dr. Mark Swingle is Director of Research and Conservation Programs at the Virginia Aquarium and Marine Science Center in Virginia Beach. For more information about marine mammal or sea turtle strandings, please call Dr. Swingle at (757) 437-6022. To report a stranded marine animal to the Center, please call (757) 437-6159 (24 hours a day).*

### *Evaluation Results... Continued from page 1*

citizens who benefit from these funds. "This represents a great 'missed opportunity' to establish the Virginia Coastal Program's visibility and broaden its constituent support base," states NOAA's report, which also specifies that the Virginia Coastal Program should ensure that all projects funded through the VCP acknowledge the VCP.

"This final issue of visibility is a critical one," explains Laura McKay, Program Manager. "Virginia could receive a \$620,000 cut in its annual funding from NOAA. Every time the Virginia Coastal Program is not appropriately acknowledged, whether it is in a newspaper article, in publications, on the Web, or on signage, we lose an opportunity to tell people what good things their tax dollars are doing. Congress and the general public don't seem to understand what Coastal Zone Management dollars do in their states. We, in Virginia, need to do our part to change that." 🐡

You can view NOAA's Final Evaluation Findings of the Virginia Coastal Program in its entirety on the Virginia Coastal Program Web site at <http://www.deq.virginia.gov/coastal/> Contact Laura McKay at (804) 698-4323, or [Laura.McKay@deq.virginia.gov](mailto:Laura.McKay@deq.virginia.gov), with any questions regarding the evaluation or NOAA's final report.



*Cameron, a harbor seal, makes his way back to the water fitted with a satellite tag so that researchers can track his progress. Photo courtesy of VAMSC Stranding Center.*

# Virginia's Maritime History: A Focus on Our Historic Places

## The Sands of Time Have Shifted, but This Lighthouse Holds Its Ground

The New Point Comfort Lighthouse, commissioned by Thomas Jefferson in 1804 and completed in 1805, stands 63 feet high and is the third oldest lighthouse in the Chesapeake Bay. Originally built on a peninsula at the southernmost tip of Mathews County, the lighthouse guided ships heading up and down the Chesapeake Bay and warned mariners of the surrounding shallow shoals. It now rests on a tiny rock-covered island approximately 1/2 mile off-shore of New Point Comfort.

Over the past 199 years, the lighthouse has withstood the unfor-giving forces of the wind and waves. The sandy beaches on which it was built however have dramatically eroded. During the mid-nine-teenth and early twentieth centuries, a succession of strong storms, including two great storms in 1933, carved an inlet in the beach near the lighthouse. Eventually the sea cut off the tip of the peninsula, and the lighthouse was completely cut off from the mainland.

Although the lighthouse still stands sentinel over Mobjack Bay to the west and the Chesapeake Bay to the east, it was abandoned in 1963 when the Coast Guard, needing to mark the shoals more accu-rately, erected a modern lighthouse 1,050 yards to the southeast. The old lighthouse was designated as a National Historic Landmark in 1972, and acquired by Mathews County in 1975. New Point Com-fort Island, home to the historic structure, was obtained by The Nature Conservancy in 1979 and given to Mathews County as a natu-ral area in 1982.

On the mainland, just within view of the lighthouse, the Vir-ginia Coastal Program made possible the purchase of 95 acres of eco-logically significant coastal beach, dunes, and maritime forest through a grant to The Nature Conservancy. The property, a popular spot to take in a panoramic view of the shoreline, Bay and lighthouse in the distance, was dedicated as a natural area preserve by the Department of Conservation and Recreation in 1997. To preserve public access and protect the natural resources of the site, the Coastal Program pro-vided funds to Mathews County to construct a boardwalk, at the end of which visitors can gaze out onto the lighthouse.

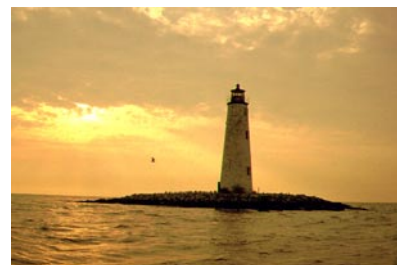


*By the turn of the 20th century the beach around the lighthouse had become a popular spot for Sunday outings and picnics. Yachting parties came ashore to enjoy its matchless bathing and camping facilities. To the west of the island, commercial fish houses and piers were built to support the thriving local seafood industries. Some of the nation's most prized blue crabs, oysters, clams, and fish were unloaded and processed there. Text courtesy of NewPointComfort.com (<http://www.newpointcomfort.com/>) Photo courtesy of The Hollerith Collection.*

The lighthouse itself has also received some needed attention. Through the efforts of the New Point Lighthouse Lantern Commit-tee of Mathews County, the lighthouse was refitted with a solar pow-ered fixed beacon in 1999. The New Point Comfort Lighthouse Preservation Task Force was formed in 2001 to develop a master plan for preserving the lighthouse and making it accessible to the public.

To improve safe public access to the lighthouse and facilitate preservation and maintenance efforts, the Virginia Coastal Program gave a grant to the Middle Peninsula Chesapeake Bay Public Access Authority to reconstruct a 16-foot pier and T head that was destroyed by storms. VCP funds will also be used to install a new steel door on the lighthouse for security.

Although it no longer serves as a navigational mark-er, the New Point Comfort Lighthouse will remain standing through careful efforts to preserve a familiar friend to local residents, mariners and visitors alike. 🐟



*The New Point Comfort lighthouse today. Photo courtesy of Middle Peninsula PDC.*

For more information about the history of New Point Comfort and the lighthouse, visit <http://www.newpointcomfort.com/>. For more information regarding current restoration and construction efforts, please contact the Middle Peninsula Planning District Commission at (804) 758-2311.

The Coastal Zone Management Act states that - "Important ecological, cultural, historic, and esthetic values in the coastal zone which are essential to the well-being of all citizens are being irretrievably damaged or lost" and declares that it is the national policy to provide for "...sensitive preservation and restoration of historic, cultural, and esthetic coastal features."

In the last issue of Virginia Coastal Management we focused on the individuality and spirit of one of our many historic coastal towns. In this issue we shift focus to the durability and presence of one of our historic shoreline sentinels, once again highlighting our efforts to preserve and conserve Virginia's maritime history and unique coastal resources.



of Game and Inland Fisheries, William and Mary's Center for Conservation Biology and The Nature Conservancy) are working to correlate bird migration stopover sites with detailed analyses of forest patches on the Eastern Shore. With grants from the Coastal Program and the US Geological Survey, the Center for Conservation Biology is using remote sensing and ground truthing to inventory forest density, species composition, patch size, age and connectivity to other patches. CCB scientists are also analyzing the loss of forest habitats over time. Although the 1991 data are considered inaccurate, when compared with 2001 USGS land cover data, Northampton County appears to have lost 25% of its forest cover. The forest cover loss is believed to be less than 25%, but we won't have accurate figures until the 1991 data are re-analyzed.

Regardless of rate, shoreline forest patches are at great risk of being permanently lost as waterfront areas are subdivided and housing and other development continues. Without adequate protections of critical tree, shrub and understory vegetation, migratory bird rest stops will disappear, as will the birds themselves. Through the Coastal Program's Northampton County Special Area Management Plan, the

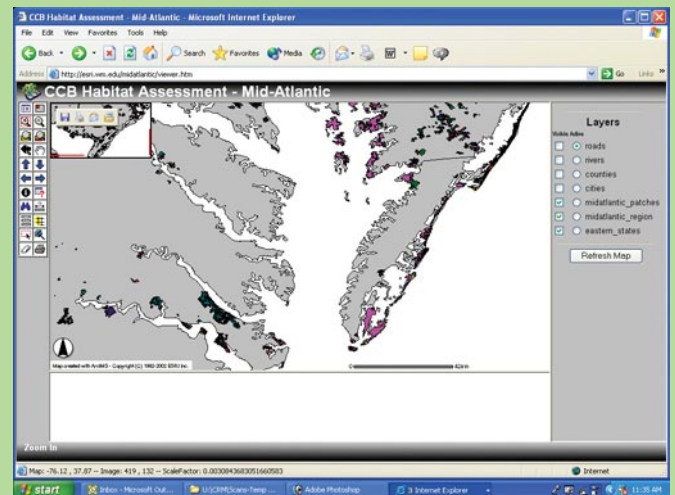


***Shoreline forest patches are at great risk of being lost as waterfront areas are subdivided and developed. Aerial Imagery Copyright 2002 Commonwealth of Virginia.***

county has made two attempts to adopt an overlay to protect critical trees and shrubs along the shoreline and throughout the southern tip.

The forest patch analysis work will be correlated with data on migratory bird stopover sites. With a \$92,000 grant that flows from USF&WS through Virginia's Department of Game & Inland Fisheries to The Nature Conservancy to Dr. Bryan Watts of CCB and Dr. Sarah Mabey of NC State (a TNC post-doctoral Fellow), bird counts are being conducted this fall using the N-POL Doppler radar at Oyster. This study will help pinpoint exactly where migratory songbirds are resting and feeding during the day. Scientists will be able to view birds within a 60-mile radius around Oyster, on the radar screen, as they rise up from these stopover sites in the early evening and move along the Eastern Shore peninsula and across the mouth of the Chesapeake Bay. Something that was impossible 14 years ago when Drs. Mabey and Watts first documented migratory songbird concentrations on the Eastern Shore under several Virginia Coastal Program grants. At the time, we had to rely on simple binoculars in the hands of volunteers stationed across transects. Those early 1990's seminal studies lead to the development of Northampton County's proposed overlay ordinance and to elements within the recent US Fish & Wildlife Service's Comprehensive Conservation Plan for the Eastern Shore of Virginia and Fisherman Island National Wildlife Refuge. That plan calls for the

## Regional Bird Habitat Assessment Project Underway




The Center for Conservation Biology at the College of William and Mary is working with the Virginia Department of Game and Inland Fisheries and other Partners in Flight (PIF) program partners on a regional Habitat Assessment Project.

According to the Center, during the course of the twentieth century, the living space and infrastructure required by an expanding human population has had a pervasive impact on the natural landscape, resulting in a direct change in the availability and distribution of the habitats required by many bird species.

The primary objectives of this project are 1) to evaluate where PIF stands on regional habitat goals and 2) to begin the process of mobilizing the collective partnership embodied in the Partners-in-Flight program from conservation planning to conservation action within the mid-Atlantic region.

Within the mid-Atlantic Coastal Plain, lands owned or controlled by government agencies and organizations within the Partners in Flight program are highly fragmented and represent several thousand habitat patches. In 2000, a habitat assessment project was initiated to catalog and evaluate lands within the PIF collective. Digital orthophotography was used to evaluate more than 900 properties controlled by PIF partners. The next step will use habitat and partner-specific data to customize regional conservation action plans and clarify conservation priorities, linking land managers to specific habitat targets.

Please visit the Center for Conservation Biology Web site for more information about this comprehensive project, [http://faculty.wm.edu/ccb/habitat/habitat\\_home.cfm](http://faculty.wm.edu/ccb/habitat/habitat_home.cfm).

expansion of the refuge boundary based largely on the pioneering work of the Virginia Coastal Program and its partners on migratory songbird habitat requirements. To view migratory birds of all sorts, up close, be sure to go to the Eastern Shore Birding Festival October 8-10 (see back cover) or stop by the Kiptopeke State Park Bird Banding Station before the end of October. 

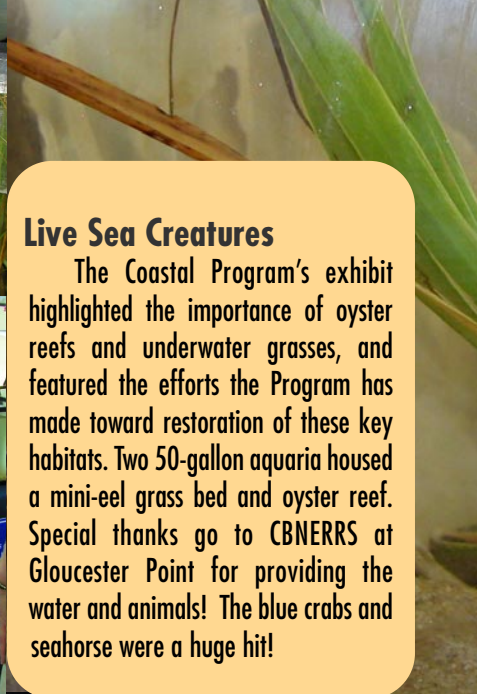
For more information on the Seaside Heritage Program or migratory bird studies, contact Laura McKay at (804) 698-4323 or [Laura.McKay@deq.virginia.gov](mailto:Laura.McKay@deq.virginia.gov).



# Smithsonian or Bust!

Oysters, Seahorses and Undersea Grasses Fascinate the Folks!

The Virginia Coastal Program exhibited in June at the 2004 Smithsonian Folklife Festival on "The Mall" in Washington, D.C. The theme—Mid-Atlantic Maritime Communities. Aquaria, kid's activities, Omar (the oyster), and Seacil (the seahorse), brought crowds and fun-filled learning!



## Live Sea Creatures

The Coastal Program's exhibit highlighted the importance of oyster reefs and underwater grasses, and featured the efforts the Program has made toward restoration of these key habitats. Two 50-gallon aquaria housed a mini-eel grass bed and oyster reef. Special thanks go to CBNERRS at Gloucester Point for providing the water and animals! The blue crabs and seahorse were a huge hit!



## Kids Activities

Children helped build an oyster reef and a sea grass bed. They also walked away with an Omar tattoo and a "bit of habitat" they built for their Seacil seahorse cookie cutter out of green straw and pipe cleaners!



## Omar of the Reef and Seacil of the Seagrass

—the star attractions!





# Fast Flowing Water Quality Data: Results Pour in to Virginia CBNERRVA

By Willy Reay, CBNERRS and Scott Lerberg, Coastal Specialist

Combining new and existing technology, the Chesapeake Bay National Estuarine Research Reserve in Virginia (CBNERRVA) continues to be a leader in water quality monitoring in the Chesapeake Bay.

Using a new vessel deployed Surface Water Quality Mapping System (DATAFLOW), along with continuous measurements from fixed water quality monitoring stations, CBNERRVA is obtaining more accurate measurements of the spatial and temporal variability of water quality in Chesapeake Bay and its tidal tributaries.

Principal funding for these efforts is provided by NOAA and EPA to the NERRS System-Wide Monitoring and Chesapeake Bay Shallow Water Monitoring Programs.

CBNERRVA currently maintains thirteen fixed water quality monitoring stations, including nine on the York River, three on the Piankatank/Dragon Run System, and one in Cherrystone Inlet on the seaside of Virginia's Eastern Shore. Each monitoring station is built to house and protect one water quality instrument, called a Datasonde, which collects information every 15 minutes on water depth, temperature, salinity, dissolved oxygen, turbidity, pH, and fluorescence.



(Left) A fixed monitoring station on the York River. (Right) Water quality samples taken by boat at 20 knots/hour as part of the Surface Water Quality Mapping System. Photos courtesy of CBNERRVA.

Datasondes are exchanged at 1 to 2 week intervals to minimize the impacts of fouling on the sensors. Every datasonde goes through rigorous pre- and post-deployment calibration to ensure sensor performance during each deployment. Water samples are also collected during the deployment and retrieval of each datasonde to verify accuracy of the readings.

DATAFLOW was designed to “fill in the spatial gaps” between the fixed water quality monitoring stations. This system simultaneously collects locational (latitude and longitude) and shallow (upper

50 cm) water quality information similar to the fixed stations. Water samples are taken every 3 to 4 seconds at vessel speeds of approximately 20 knots, resulting in a spatial sampling resolution of approximately 50 meters along the

cruise tracts. The primary components of the DATAFLOW system include: 1) a ram intake coupled with a water pump that transports water to the datasonde; 2) a flow cell designed to minimize air bubble interference; 3) the water quality datasonde with the same multiple sensors as the fixed stations; and 4) GPS and depth sensors. This whole system is linked to an on-board computer with custom written software for data acquisition, storage, and real-time display.

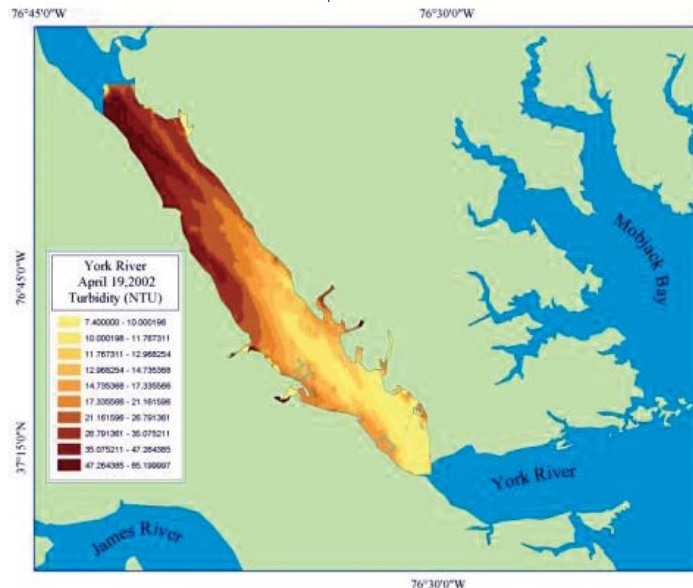
There are many potential uses of the monitoring data. It can help assess storm impacts, SAV and fish habitat suitability

and restoration potential of a site. The data will also be useful in identifying harmful algal blooms and low dissolved oxygen events, providing accurate water quality data in support of other ongoing monitoring and research projects, and enhancing monitoring data for refined eutrophication and watershed models. CBNERRVA's monitoring efforts are also integrated into its educational programs.

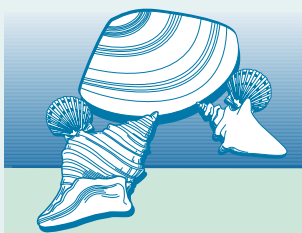
The implementation of this enhanced water quality monitoring program, the addition of new water quality monitoring stations, and a massive upgrade of water quality monitoring equipment and staff are all efforts by CBNERRVA to support the Chesapeake Bay 2000 Agreement. The Agreement's new water quality standards have placed new requirements on obtaining accurate measurements of the spatial and temporal variability of water quality constituents.

Another exciting monitoring effort at CBNERRVA is an attempt to incorporate water quality and weather monitoring programs into an integrated observation system for the Chesapeake Bay. Partners in a recent grant submission for this initiative include VIMS, Old Dominion University, the University of Maryland's Center for Environmental Science, Maryland's Department of Natural Resources, and NOAA's Weather Service and Center for Operational Oceanographic Products and Services. CBNERRVA is also working with North Star Science and Technology to test a satellite telemetry system which will allow “real-time” access to the water quality information at each fixed station. The program is also working with Yellow Springs Instrumentation to field-test remote, continuous light, and nutrient analyzers.

For more information about CBNERRVA and its monitoring programs, please contact Dr. Willy Reay at (804) 684-7119 or [wreay@vims.edu](mailto:wreay@vims.edu).



A diagram produced with the new DATAFLOW water quality monitoring system at CBNERRVA shows turbidity in the York River. Diagram courtesy of CBNERRVA.



# COASTAL CLIPS & CONTRIBUTIONS

## New Faces at the Coastal Program



**Scott Lerberg** joined the Coastal Program last May as the new Coastal Specialist. Scott earned a B.S. in Biology from Denison University in 1992 and a Master's Degree in Marine

Science from the University of Charleston in 1997. Scott has completed the coursework required for a Ph.D. at the Virginia Institute of Marine Science and was a Graduate Research Fellow of the Chesapeake Bay National Estuarine Research Reserve in Virginia. Scott's research focused on assessing the effects of upland development on shallow-water food webs and using long-term biological and water-quality data as indicators of ecosystem change in tidal marsh ecosystems.

At the Virginia Coastal Program, Scott will continue to expand and improve the Program's ability to integrate and analyze spatial coastal resources data especially related to the Coastal Program's Blue-Green Infrastructure initiative and Virginia Seaside Heritage Program using GIS Internet Mapping System (ArcIMS) applications. Scott

will also maintain the Virginia Coastal Program's grants and performance measures databases. Scott can be reached at (804) 698-4537 or [Scott.Lerberg@deq.virginia.gov](mailto:Scott.Lerberg@deq.virginia.gov).

**Krista Trono** joined the Coastal Program as a Research Assistant last November. As the new Research Assistant, Krista is involved in various shoreline management issues, including the development of the interagency shoreline consensus document. She is also researching the "living shorelines" concept for Virginia. Krista is working with Program staff on the development of national performance measures to help document the way CZM money is spent in the Commonwealth. Krista has also been active in the planning and staffing of many of the Program's outreach events.

Krista is a recent graduate of the University of Miami (RSMAS) where she completed a Master's degree in Marine Affairs & Policy. Her thesis, an analytical review of shoreline management in Virginia, was accomplished via an internship with the Coastal Program last summer and fall.

Krista can be reached at (804) 698-4051 or [Krista.Trono@deq.virginia.gov](mailto:Krista.Trono@deq.virginia.gov).



## Buffer Manual Now Available

The Division of Chesapeake Bay Local Assistance at the Department of Conservation and Recreation released a Riparian Buffer Modification & Mitigation Manual in September 2003. The manual will assist local governments in guiding property owners to avoid activities in conflict with the intent of the Bay Act and the program's regulations. The manual includes information on riparian buffer functions and values, permitted buffer modifications, and buffer management. It also provides a listing of recommended plants for riparian buffers. The manual is available on-line at <http://www.cblad.state.va.us/rip-buffstat.cfm>.

## Conservation Lands GIS Database Now Available

The Virginia Department of Conservation and Recreation has produced a user-friendly GIS tool for viewing Virginia's protected conservation lands. This is the Commonwealth's first comprehensive statewide lands resource, including mapped boundaries for public and private conservation lands in Virginia. DCR director Joseph H. Maroon explains, "State resource agencies, universities, land trusts, and regional and local government will find this tool invaluable for environmental, recreation and conservation planning." The DCR database is available on-line at <http://www.dcr.state.va.us/dnh/conslandindex.htm>

## Many Thanks to Our 2004 Summer Intern!

Special thanks to Matt Shaw, who was a welcome addition to the Coastal Program staff this past summer. Matt worked with Shep Moon, analyzing the current regulatory framework for dunes management in Virginia and determining whether the present jurisdiction of the Primary Dunes and Beaches Act should be expanded. Matt also lent a hand on other endeavors, including the 2004 Smithsonian Folklife Festival (photo of Matt feeding the oysters at right)!

Matt is currently in his third year at Vermont Law School in South Royalton, Ver-



mont. He is simultaneously working towards a Masters degree in Studies in Environmental Law and expects to graduate in May 2005. Matt is originally from Virginia and earned his undergraduate degree in Government and Politics at George Mason University in Fairfax, Virginia in 1995.

## James River Interpretive Maps

A series of interpretive maps, created to encourage active and passive educational and recreational use of the James River, is now available. The maps, funded by the Virginia Coastal Program, are the combined effort of the Richmond Regional Planning District Commission, James River Advisory Council, and the City of Richmond James River Park System. The maps show collected data on environmental, historical and cultural resources from Goochland County to the Charles City/James City County line. The maps are available on the Richmond Regional PDC Web site at <http://www.richmondregional.org/maps.htm>. Please direct your requests for hardcopies to Christine Fix (804) 367-6001 or [cfix@richmondregional.org](mailto:cfix@richmondregional.org).



## Northern Neck Offers Course for Realtors

In January 2004 Northern Neck Regional Environmental Inspectors Micqui Whiddon and Robin Markham participated in a conservation course to educate realtors on coastal resource protection. Micqui and Robin (both funded through Coastal Program grants) addressed topics such as erosion and sediment control, Wetlands Act and Bay Act requirements and local ordinances related to shoreline management.

Micqui and Robin have developed exhibits for local libraries to educate the public about the importance of shoreline protection and shoreline erosion control. They regularly respond to requests for information from citizens concerned with waterfront development in Westmoreland, Northumberland, Richmond, and Lancaster counties. *For more information about these outreach and education efforts in Northern Neck, please contact Micqui Whiddon [mwhiddon@mail.nnpdc17.state.va.us](mailto:mwhiddon@mail.nnpdc17.state.va.us) or Robin Markham [rmarkham@mail.nnpdc17.state.va.us](mailto:rmarkham@mail.nnpdc17.state.va.us).*



## Virginia Hosts Coastal Managers from South Korea

The Virginia Coastal Program welcomed a delegation from the Korean Ministry of Maritime Affairs and Fisheries last May.

Seung Hwan Cho, Director of the Coastal Planning and Management Division and Young-Dae Kim, with the Marine Conservation Division, traveled to Virginia with Jonathan Justi, Asia Programs Manager with NOAA's National Ocean Service.

The delegation was particularly interested in how Virginia's levels of government coordinate on coastal management and the Virginia Coastal Program's role in facilitating this coordination. There are striking similarities between the two programs and discussions focused on aquaculture use conflicts, and waterfront development.

## CBLAD Merged Into DCR

As of July 1, 2004, the Department of Conservation and Recreation (DCR) is responsible for implementing the Chesapeake Bay Preservation Act. On that date the former Chesapeake Bay Local Assistance Department became a division of DCR. "Implementing the Preservation Act complements DCR's role as the state's lead nonpoint source pollution prevention agency," explains Joe Maroon, Director of DCR.

The merger resulted from a legislative budget action during a special session of the 2004 General Assembly. The newly designated Division of Chesapeake Bay Local Assistance joins the department's other operational program areas, including: state parks, soil and water conservation, natural heritage, planning and recreational resources, and dam safety and floodplain management.

"Although immediate changes are unlikely, I am committed to working over the next several months with staff from both agencies in order to make the consolidation as effective and efficient as possible. Our goal is to see that water quality benefits derived from the Chesapeake Bay Preservation Act continue and to strengthen dialogue with the affected localities, building industry and conservation community," states Director Maroon.

*Information and text for this Coastal Clip provided by an article recently printed in Grassroots, DCR's agency newsletter.*

## Coastal Program Supports 2004 Clean Commute Day

Clean Commute Day took place on May 7th across Virginia. This day-long event encourages the public to travel to and from work, school or other locations in modes that reduce air pollution and reliance on single-occupancy vehicles.

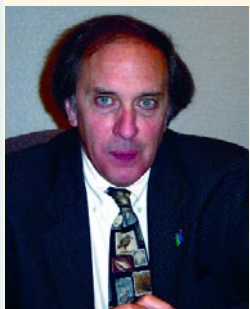


The Virginia Coastal Program provided funding to place twenty 21" x 72" exterior signs on buses in selected communities (Alexandria and Arlington) to increase awareness and participation in Clean Commute Day activities.

Events in the northern Virginia area attracted approximately 2,500 participants on May 7, 2004. Additionally, 54 individuals signed up on-line through the Virginia Clean Commute Web site.

Media experts anticipated that 2.0 million Northern Virginia residents were reached with a Clean Commute Day message as a result of this project.

## HRPDC's John Carlock Receives Environmental Leadership Award



John Carlock, Deputy Executive Director of Physical Planning for the Hampton Roads Planning District Commission, was a recipient of one of the 2004 Virginia Environmental Leadership Awards sponsored by the Environment Virginia Symposium. The awards honor Virginia's environmental leaders for their work on environmental concerns and for their inspiration to help preserve Virginia's natural resources.

Mr. Carlock was recognized in the local government category for his abilities and efforts to present a regional voice for Hampton Roads on complex issues through improving communication and cooperation among stakeholders. The award was presented at the 15th Annual Environment Virginia, the Commonwealth's largest environmental conference, at the Virginia Military Institute in Lexington Virginia, March 30–April 1. In honor of each of the six winners, the conference made a \$500 contribution to the not-for-profit environmental group of the winner's choice. Mr. Carlock selected the Hampton Roads H2O-Help to Others program as his recipient group.

*For more information on the annual Environment Virginia Conference and the award program, visit <http://www.environmentva.org>.*



## Flying Onto the Calendar!

### The 12th Annual Eastern Shore of Virginia Birding Festival: October 8–10, 2004!

#### And the winner is...

Casey Sharpe, a student at Nandua High School, was the winner of the 2004 Eastern Shore of Virginia Birding Festival Art Contest. Casey's artwork appears on the poster for this year's festival as well as in a series of note cards produced by the Birding Festival Steering Committee. The Committee is chaired by the Eastern Shore of Virginia Chamber of Commerce. The Birding Festival began in 1993 as an activity of the Northampton County Special Area Management Plan funded by the Virginia Coastal Program.

This year's festival is headquartered at the Best Western Sunset Beach Resort located in Northampton County on Route 13, near the Chesapeake Bay Bridge Tunnel. Boating and hiking trips are offered in locations throughout Northampton and Accomack Counties.

The keynote speaker for 2004 is Brad A. Andres. Brad studied migrant shorebirds on the Arctic Coastal Plain and breeding black oystercatchers in Prince William Sound. He is now employed by the U. S. Fish and Wildlife Service as National Coordinator of the U. S. Shorebird Conservation Plan. Brad works with various partners to implement conservation strategies for shorebirds.

For more information, visit <http://www.esvachamber.org/festivals/birding/index.html>.

#### VIRGINIA COASTAL MANAGEMENT

Virginia Coastal Resources Management Program

Virginia Department of  
Environmental Quality

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